PATENT
Atty Docket No. 1098-010/MMM

Remarks

Claims 1, 2, 4-14, 16-19, 21, 23-28, 30-35 and 37-41 are in the application. Claims 3, 15, 20, 22, 29 and 36 are cancelled. Claims 1, 14, 24, 28, and 35 are in independent form. Reconsideration is requested.

Claim 27 stands rejected under 35 U.S.C. 112, second paragraph, for indefiniteness. The Examiner notes that the expression "the method" lacks an antecedent basis. Claim 27 has been amended to delete the informality. Applicants request that the rejection be withdrawn.

Claims 1-21, 28, 31, 35, and 38 stand rejected under 35 U.S.C. 102(e) for anticipation by Bennett (US Patent No. 6,490,574). All remaining claims stand rejected under 35 U.S.C. 103(a) for obviousness over Bennett (US Patent No. 6,490,574), either alone or in combination with Roccaforte (US Patent No. 6,484,179). Applicants respond as follows.

Independent claim 1 has been amended to include the subject matter of dependent claims 3 and 6, which have been cancelled. Independent claim 14 has been amended to include the subject matter of dependent claims 15, 20, and 22, which have been cancelled. Independent claim 28 has been amended to include the subject matter of dependent claim 29, which has been cancelled. Independent claim 35 has been amended to include the subject matter of dependent claim 36, which has been cancelled. Applicants submit that independent claims 1, 14, 24, 28, and 35 are patentably distinct from the cited references for the following reasons.

Claim 1 recites:

> one or more adaptive engines that receive and apply inferencing to external information received from one or more data feeds to generate computer-implemented tasks relating to the external information, the one or more adaptive engines each including a metadata repository for temporarily storing the external information as metadata and an isochronal agent that periodically analyses the metadata in the metadata repository at predefined time intervals to generate corresponding computer-implemented tasks.

In the rejection of claim 6, the subject matter of which is now included in claim 1, the Examiner states that the queue control module 408 of Bennett discloses an isochronal agent "that periodically the metadata ... at predefine time intervals."

Applicants submit, however, that the queue control module 408 performs a much more limited function than that recited for the isochronal agent. In particular, Bennett states that:

> the queue control module 408 monitors the event queue 402 and also the current event being processed by the event processing controller 400 to determine the point in time at which the event processing module 110 no longer has any events in-queue or being processed for the selection key specified in the quiesce signal. When it has determined that there are no such events, the queue control module 408 responds to the change coordination function 320 with an acknowledgment signal indicating that it has completed the drain request and is now in a queue-drained state for the particular selection key. (Bennett, col. 12, lines 26-36.)

By this description the queue control module 408 merely determines whether or not events remain in a queue. There is no recitation of the queue control module 408 functioning to periodically analyze the metadata in the metadata repository at predefined time intervals to generate corresponding computer-implemented tasks. Applicants submit, therefore, that claim 1 is not and cannot be anticipated by Bennett. Applicants request, therefore, that the rejection for anticipation be withdrawn.

Moreover, the periodic analysis of the metadata in the metadata repository at predefined time intervals by the isochronal agent allows it to pro-actively identify information or perform tasks, as described in the application at paragraphs [0052] and [0053]:

> Consider the following example. A user of scalable agent service system 100 is about to take a flight for a business trip. He wants to be notified if the plane is going to be delayed so that he does not arrive at the airport and have an extended wait for the flight. An isochronal agent 414 of scalable agent service system 100 checks flight metadata repeatedly at a preset time interval (e.g., every ten minutes) to see if the flight is running on time.

In contrast to such pro-active periodic analysis provided by the isochronal agent of claim 1, the queue control module 408 of Bennett merely determines whether or not a queue is empty. Applicants submit, therefore, that neither Bennett, nor any of the other cited references, teaches or suggests the scalable agent service system of claim 1.

Claim 14 recites:

> plural computer-implemented event agents, one or more of which operate as rules engines that apply the inferencing to the external information, a relational database for storing plural rules that are retrieved and used by the event agents that operate as rules engines to apply the inferencing to the external information, software for splitting the relational database into key-range partitions, and software for activating plural instances of service agents that service corresponding key-range partitions of the relational database

In the rejections of claim 22, the subject matter of which is now included in claim 14, the Examiner states that in the absence of any teaching by Bennett, Roccoforte discloses data being stored in key-range partitions, and that it would have been obvious to apply the teachings of Roccoforte to Bennett "because this allows the data to be processed independently."

Applicants submit that the cited references provide no teaching or suggestion to combine the key-range partitions with the teachings of Bennett. In contrast to the present application, Bennett provides no teaching or suggestion of a manner of providing highly scalable agent service software. As described in the application at [0084] and [0085]:

> For service agents 422 that are rule-based, the partition structure presented above offers particular added benefits. The partitioning of the subscriber space diminishes the size of the rule resolution space and speeds up the inference process. The partitioning method described above is well suited for handling strict deadline spontaneous events. The reason for not processing spontaneous events immediately is that it would prove expensive to query the whole database for every single event as it comes in.

Neither Bennett nor Roccoforte provides any teaching or suggestion of a need for such performance enhancement in an agent system because Bennett does not

contemplate the highly scalable scope of the present invention and Roccoforte does not contemplate agent systems. Applicants submit, therefore, that claim 14 is patentably distinct from the cited references and request, therefore, that the rejection be withdrawn.

Claim 24 stands rejected for the reasons set forth in reference to claims 1-2 and 22-23. Applicants submit that the scalable agent service method of claim 24, with rules stored in a relational database that is split into plural key-range partitions, is patentably distinct from the cited references for the reasons set forth above in reference to amended claim 14.

Claim 28 stands rejected for the reasons set forth in reference to claims 1-2 and 7-8. Claim 28 recites:

> event scheduler means for scheduling at least first and second different types of asynchronous events for execution by the event agents as computer-implemented tasks, the first and second different types of asynchronous events include any two of periodic events, non-periodic scheduled events, and spontaneous events.

In the rejection of claim 29, the subject matter of which is now included in claim 28, the Examiner states Bennett does not disclose processing of "periodic, non-periodic and spontaneous events," but rather teaches processing of "any event."

Applicants submit that the queue control module 408 of Bennett performs a much more limited function than that recited for the event scheduler means. In particular, Bennett states that:

> the queue control module 408 monitors the event queue 402 and also the current event being processed by the event processing controller 400 to determine the point in time at which the event processing module 110 no longer has any events in-queue or being processed for the selection key specified in the quiesce signal. When it has determined that there are no such events, the queue control module 408 responds to the change coordination function 320 with an acknowledgment signal indicating that it has completed the drain request and is now in a queue-drained state for the particular selection key. (Bennett, col. 12, lines 26-36.)

By this description the queue control module 408 merely determines whether or not events remain in a queue. There is no recitation of the queue control module 408 functioning to schedule at least first and second different types of asynchronous events for execution by the event agents as computer-implemented tasks, the first and second different types of asynchronous events include any two of periodic events, non-periodic scheduled events, and spontaneous events.

Moreover, applicants submit the Examiner has overstated the extent of the teaching of Bennett. Rather than teaching the processing of "any event," as summarized by the Examiner, Bennett states that:

> The present invention relates to a method and apparatus which operates a rule-based intelligent agent to process events occurring in a computer system on behalf of a group of users. (Bennett, col. 2, lines 53-56.)

By this description, Bennett discloses merely the processing of some events, not any events. Applicants submit, therefore, that the premise of the rejection of claim 28 is based on an unsupported reading of Bennett and that a proper reading of Bennett does not teach or suggest scheduling at least first and second different types of asynchronous events for execution by the event agents as computer-implemented tasks, the first and second different types of asynchronous events include any two of periodic events, non-periodic scheduled events, and spontaneous events. Applicants submit, therefore, that neither Bennett, nor any of the other cited references, teaches or suggests the scalable agent service system of claim 28 and request that this rejection be withdrawn.

Claim 35 recites subject matter analogous to that of claim 28. Applicants submit that claim 35 is patentably distinct for the reasons set forth above in reference to claim 28.

For the foregoing reasons, applicants submit that independent claims 1, 14, 24, 28, and 35, and their dependent claims, are patentably distinct from the cited references and request that the rejections be withdrawn.

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Applicants believe the application is in condition for allowance and respectfully request the same.

Respectfully Submitted,

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